REMARKS

Claims 1-21 and 49-55 were pending in the instant application. Claims 1, 5-9, 11, 15-19, and 49-54 have been amended, and claims 2-4 and 10 have been cancelled without prejudice. New claim 56 has been added. Accordingly, upon entry of the present Amendment, claims 1, 5-9, 11-21, and 49-56 will remain pending in the application. Claims 11-15 and 55 have been withdrawn from consideration.

Applicants respectfully submit that no new matter has been introduced by the foregoing amendments. Support for the claim amendments and the new claims presented herein may be found throughout the originally filed application and claims. Specifically, support for the amendments to claim 1 may be found in the specification as filed, at least at page 4, lines 19-30, page 90, line 28 through page 91, line 3, page 22, lines 4-28, and in Tables 4 and 8. Support for the amendments to claim 9 may be found in claim 10, as filed, and in the specification at least at page 18, lines 15-19. Support for the amendments to claims 18 and 19 may be found in the specification at least at page 22, lines 4-28. Support for the amendments to claims 49 and 50 may be found in the specification at least at page 4, lines 19-30 and at page 90, line 28 through page 91, line 3. Support for the amendments to claims 1, 5-8, 11, 15-18,and 51-54 can be found in the specification as filed, at least at page 12, lines 1-16, and in Tables 1-13. Finally, support for new claim 56 can be found in the specification as filed at least at page 91, lines 1-5.

It is Applicants' understanding that claims 1-7 and 16-21 are linking claims, linking the inventions of Groups I and II. It is also Applicants' understanding that upon the allowance of the linking claims, the restriction requirement as to the linked inventions (Groups I and II) will be withdrawn and the linking claims and any claims dependent thereon or otherwise including the limitations thereof, will be examined.

Responsive to the issues raised by the Examiner's rejection at page 20 of the present Office Action, Applicants enclose herein copies of the Assignment documents from the instant application[1] and from co-pending Application No. 11/510,520[2], which confirm that these applications were commonly owned by Millennium Pharmaceuticals, Inc. at the time the invention in this application was made.

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[1] The Assignment document for the instant application was recorded on September 23, 2004 at Reel 015813, Frame 0793.

[2] The Assignment document for Application No. 11/510,530 was recorded on August 25, 2006 at Reel 018253, Frame 0883.

Amendment and/or cancellation of the claims is not to be construed as acquiescence to any of the objections/rejections set forth in the instant Office Action or any previous Office Action of the parent application, and was done solely to expedite prosecution of the application. Applicants reserve the right to pursue the claims, as originally filed, or similar claims in this or one or more subsequent patent applications.

Non-Compliant Amendment

The Examiner has objected to the amendment filed on September 20, 2006 as being non-compliant because "the listing of claims incorrectly indicates that claims 4 and 11-15 were withdrawn at the time that the amendment was filed; and moreover, only claims 11-15 have been withdrawn by this Office Action." Responsive to the Examiner's objection, Applicants submit herein a corrected section, *e.g.*, the Amendments to the Claims section, of the non-compliant amendment. Accordingly, Applicants respectfully request reconsideration and withdrawal of the foregoing objection to the amendment.

Objection to the Specification

The Examiner has objected to the specification because of the use of embedded hyperlinks and/or other forms of browser-executable code and the use of improperly demarcated trademarks.

Responsive to the Examiner's objection, Applicants have amended the specification to remove the references to hyperlinks and to correct the improperly demarcated trademarks. Accordingly, Applicants respectfully request reconsideration and withdrawal of the foregoing objection to the specification.

Priority

The Examiner has indicated that "the effective filing date of claims 1-10, 19-21, and 49-54 is deemed the filing date of the instant application, namely August 20, 2003." Applicants respectfully submit that once the pending claims are in condition for allowance, Applicants will amend, if appropriate, the priority claim in this application.

Rejection of Claims 1-10, 16-21, and 49-54 Under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claims 1-10, 16-21, and 49-54 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner is of the opinion that

> (a) Claim 1 recites, 'a pre-malignant condition'. Is the claimed process a method for assessing whether a patient is afflicted with a pre-malignant condition of the cervix, or just any pre-malignant condition?
> (b) Claim 2 recites, 'wherein the patient has cervical intraepithelial neoplasia (CIN) or squamous intraepithelial lesion (SIL)'. Is the claimed process a method for assessing whether a patient that has CIN or SIL is afflicted with cervical cancer or a pre-malignant condition of the cervix, or a method for assessing whether the patient is afflicted with CIN or SIL? It cannot be determined how claim 2 is intended to further limit the subject matter of the preceding claim.
> (c) Claim 3 recites, 'wherein the marker corresponds to a secreted protein'. At paragraph [0071] of the published application, the specification defines the term 'marker' as meaning 'a gene whose altered level of expression in a tissue or cell from its expression level in normal or healthy tissue or cell is associated with a disease state, such as cancer'; however, the same disclosure appears to describe the 'marker' as inclusive of a 'nucleic acid marker' (e.g., mRNA, cDNA) encoded by or corresponding to a marker of the invention, or a 'marker protein' is a 'protein marker' encoded by or corresponding to a marker of the invention, which comprises the entire or a partial sequence of any of the disclosed sequences set forth in the Sequence Listing. Accordingly, it is not clear how the marker to which claim 3 is directed must *correspond* to a secreted protein. Is the marker a nucleic acid marker encoding a secreted protein, or is the marker a secreted protein or fragment thereof?
> (d) Claim 4 recites, 'wherein the marker corresponds to a transcribed polynucleotide or portion thereof, wherein the polynucleotide comprises the marker'. Given the above-mentioned disclosure at paragraph [0071] of the published application, it cannot be determined how the marker to which claim 4 is directed necessarily *corresponds* to a transcribed polynucleotide comprising the marker or a portion thereof. Is the marker the transcribed nucleic acid or a portion thereof? Is the transcribed nucleic acid molecule or a portion thereof the marker/ Given this apparent lack of clarity and particularity, it is submitted that claim 4 fails to adequately delineate the subject matter that Applicant regards as the invention, so as to permit the skilled artisan to know or

> determine infringing subject matter and satisfy the requirement set forth under 35 U.S.C. § 112, second paragraph.
> (e) Claims 5, 6, 8, 16, 17, 18, and 51 recite the limitation 'the sample'. The preceding claim recites 'a patient sample' and 'a normal control cervical cancer sample'. It cannot be determined to which of these samples any of claims 5, 6, 8, 16, 17, 18 and 51 refer.
> (f) Claim 5 recites 'wherein the sample comprises an adenocarcinoma cell'. Is the adenocarcinoma cell necessarily a cervical adenocarcinoma cell, or might it be any adenocarcinoma cell?[3]
> (g) Claim 18 recites 'in samples of the same type'. While it is evident that the samples are obtained from normal control human cervical samples, it is not apparent to what or which 'type' the claim refers? Are the samples obtained from normal control human cervical samples comprised of the same *type* of tissue or cell as tissue or cell of which the patient sample is comprised?
> (h) Claim 51 recites, 'wherein the sample comprises an adenocarcinoma cell'. Is the adenocarcinoma cell necessarily a cervical adenocarcinoma cell, or might it be any adenocarcinoma cell?
> (i) Claim 52 recites, 'wherein the sample comprises an squamous cell'. Is the squamous cell necessarily a cervical squamous cell, or might it be any squamous cell?

Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have cancelled claims 2-4, thereby rendering the rejection, as it pertains to these claims, moot. With respect to claim 1, Applicants have amended the claim to remove the reference to "a pre-malignant condition". Furthermore, Applicants have amended claims 5, 6, 8, 16-18 and 51 to be directed to "a patient sample" or "a normal control cervical sample", as appropriate. Claims 5, 51, and 52 have also been amended to be directed to "cervical" cells, and claim 18 has been amended to delete the reference to "samples of the same type".

Accordingly, Applicants submit that the claims, as amended, are clear and definite and respectfully request that the rejection of claims 1-10, 16-21, and 49-54 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

[3] The phrase "wherein the sample comprises an adenocarcinoma cell" is not present in claim 5. Applicants believe the Examiner is referring to claim 51, which has been amended, as appropriate. Further clarification is respectfully requested.

Rejection of Claims 1-10, 16-21, and 49-54 Under 35 U.S.C. § 112, First Paragraph

The Examiner has rejected claims 1-10, 16-21, and 49-54 under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner is of the opinion that

> [t]he specification... does not describe the claimed invention with the particularity necessary to reasonably convey its possession by the Applicant at the time the application was filed, since, for example, it merely describes the expression of the protein in a cervical tumor (*i.e.*, cervical adenocarcinoma and squamous cell carcinoma), as well as the lack thereof by normal cervical tissue; see *e.g.*, Tables 4 and 8 of the specification.

Applicants traverse the foregoing rejection on the grounds that the instant specification sufficiently describes the claimed invention so that a skilled artisan would recognize that Applicants were in possession of the claimed invention at the time of filing. Reconsideration and withdrawal of the rejection in light of the following discussion is respectfully requested.

An objective standard for determining compliance with the written description requirement under 35 U.S.C. § 112, first paragraph, is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, the Applicant was in possession of the invention as now claimed. *Vas-Cath, Inc. v. Mahurkar,* 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991) and *In re Gosteli,* 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). That is, the disclosure must show that the inventor(s) had invented each feature that is included as a claim limitation. *New Railhead Mfg., L.L.C. vl. Vermeer Mfg. Co.,* 298 F.3d 1290, 63 USPQ2d 1843 (Fed. Cir. 2002).

Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have amended the claims to be directed to methods of assessing whether a patient is afflicted with ***cervical carcinoma, e.g., adenocarcinoma (ACA) or squamous cell carcinoma (SCC),*** the method comprising comparing: a) the level of expression of a marker in a patient cervical sample, wherein the marker is M666, and b) the level of expression of the marker in a normal control cervical sample, wherein a significant difference between the level of expression of the marker

in the patient cervical sample and in the normal control cervical sample is an indication that the patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC***.

To begin with, the Examiner has indicated, at page 11 of the Office Action, that the specification "***describes the expression of the protein in a cervical tumor (i.e., cervical adenocarcinoma and squamous cell carcinoma), as well as the lack thereof by normal cervical tissue; see, e.g., Tables 4 and 8 of the specification***" (Emphasis added). The Examiner further indicates that "it follows one cannot predict whether KCNAB1, the protein encoded by marker M666 is overexpressed in any given type of cervical cell... ***apart from squamous cell carcinoma cells and adenocarcinoma cells.***" (Emphasis added). Thus, the Examiner has admitted that Applicants' specification describes sufficiently, and that Applicants were in possession of, a method of assessing whether a patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC of the cervix*** by comparing a) the level of expression of a marker in a patient cervical sample, wherein the marker is M666, and b) the level of expression of the marker in a normal control cervical sample, wherein a significant difference between the level of expression of the marker in the patient cervical sample and the normal control cervical sample is an indication that the patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC of the cervix***.

Moreover, Applicants respectfully submit that Applicants' specification provides extensive teachings regarding the overexpression of a marker of the invention in cervical carcinoma, *e.g.*, ACA and SCC (see, *e.g.*, Tables 4 and 8 of the specification). Specifically, Table 4 identifies markers of the present invention which were selected by transcriptional profiling experiments and their marker scores in two cervical carcinomas, ACA and SCC. Table 8 sets forth the scoring on a scale of 0-5 of ethidium bromide agarose gel pictures of the end-point PCR on the tissue panel. Additionally, Figure 2 depicts transcriptional profiles of markers of the invention in normal and cervical carcinoma tissues, including SCC and ACA, via cDNA microarray hybridization. Applicants further disclose methods for assessing the expression of the markers of the invention, including "immunological methods for detection of secreted, cell-surface, cytoplasmic, or nuclear proteins, protein purification methods, protein function or activity assays, nucleic acid hybridization methods, nucleic acid reverse transcription methods, and nucleic acid amplification methods" (see, *e.g.*, page 20, lines 27-32 of the specification). Additionally, the specification teaches the identification of the markers of the invention using methods that are well known in the art, including the transcriptional profiling of cervical tissues

by cDNA microarrays (see, *e.g.*, Example 1, pages 86-90 of the specification), *in situ* hybridization (ISH) (see, *e.g.*, page 90, line 27 through page 92, line 4 of the specification), and TAQMAN® quantitative PCR (see, *e.g.*, page 92, line 6 through page 94, line 20 of the specification).

Based on the foregoing teachings in Applicants' specification, as well as the general knowledge in the art at the time of the invention, one of skill in the art would recognize that Applicants were in possession of the claimed invention. Accordingly, Applicants respectfully request that the aforementioned rejection of claims 1-10, 16-21, and 49-54 under 35 U.S.C. §112, first paragraph be reconsidered and withdrawn.

The Examiner has also alleged that "the specification does not describe with any degree of the requisite particularity the presence of the protein in any non-cervical biological sample, such as the blood or the saliva... it is expected that this particular protein is *not* secreted" (see, *e.g.*, page 16 of the Office Action). Without acquiescing to the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have cancelled claim 3, which was directed to a secreted marker protein, thereby rendering this issue moot.

The Examiner further alleges that "the specification does not describe the presence of the protein in any biological sample, which does not comprise cervical tumor cells. Yet, while claims 5-7 require the sample comprise cells, those cells are not necessarily the cells of a cervical tissue." Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have amended claims 5-7 to be directed to "cervical cells," thereby rendering this issue moot.

The Examiner also alleges that "although claim 2 requires the patient have CIN or SIL, there is no clear and particular description of a significant overexpression of the protein encoded by marker M666 by any specific type of cervical tumor cell or pre-malignant cell, ***apart from the cervical adenocarcinoma cell and the squamous cell carcinoma cell***" (Emphasis added). Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have cancelled claim 2, thereby rendering this issue moot. Once again, Applicants point out that the Examiner has

admitted that the specification provides a clear and specific description with respect to a method for assessing whether a patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC of the cervix***.

Moreover, at page 12 of the Office Action, the Examiner has alleged that

> [w]ith further regard to claim 9, which is directed to a genus of 'reagents' that specifically bind the protein, ***while the specification adequately describes an antibody or antigen-binding fragment thereof which binds to the polypeptide encoded by marker M666***, it does not adequately describe the genus as a whole, nor does it adequately describe the 'antibody derivative' to which claim 10 is directed, as the antibody that binds this protein is not representative of the genus. While the reagent to which the claims are directed necessarily binds the protein, it does not have any particular structure; as such, there is no correlation between any one particularly identifying structural feature, which is shared by members of the genus of 'reagents', and their common ability to bind the protein. For this reason, the skilled artisan could not immediately envision, recognize or distinguish at least a substantial number of members of the genus of reagents to which the claims are directed. (Emphasis added).

Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have cancelled claim 10 and have amended claim 9 to specify that the reagent is selected from the group consisting of an antibody, an antibody derivative, and an antibody fragment.

With respect to the Examiner's rejection based on the claim limitation "antibody derivative," Applicants submit that the specification adequately describes such a derivative. For example, at page 21, lines 3-4 of the specification Applicants teach that an antibody derivative may be "an antibody conjugated with a substrate or with the protein or ligand of a protein-ligand pair (*e.g.* biotin-streptavidin)." The specification also describes an antibody derivative as comprising "an immunologically active portion of an immunoglobulin molecule (*i.e.*, such a portion contains an antigen binding site which specifically binds an antigen, such as a marker protein, *e.g.*, an epitope of a marker protein)" (see, *e.g.*, page 42, lines 13-22 of the specification). Additionally, at page 47, lines 17-27 of the specification, Applicants teach

> an antibody derivative, which comprises an antibody of the invention coupled to a detectable substance. Examples of detectable substances include various enzymes, prosthetic groups,

> fluorescent materials, luminescent materials, bioluminescent materials, and radioactive materials. Examples of suitable enzymes include horseradish peroxidase, alkaline phosphatase, β-galactosidase, or acetylcholinesterase; examples of suitable prosthetic group complexes include streptavidin/biotin and avidin/biotin; examples of suitable fluorescent materials include umbelliferone, fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, dansyl chloride or phycoerythrin; an example of a luminescent material includes luminol; examples of bioluminescent materials include luciferase, luciferin, and aequorin, and examples of suitable radioactive material include ^{125}I, ^{131}I, ^{35}S or ^{3}H.

Therefore, Applicants submit that the foregoing teachings in Applicants' specification, combined with the general knowledge in the art, are sufficient to demonstrate to one of ordinary skill in the art that Applicants were in possession of methods which use "antibody derivatives" at the time of filing of the present application.

Based on the foregoing teachings in Applicants' specification, as well as the general knowledge in the art at the time of the invention, one of skill in the art would recognize that Applicants were in possession of the claimed invention. Accordingly, Applicants respectfully request that the aforementioned rejection of claims 1-10, 16-21, and 49-54 under 35 U.S.C. §112, first paragraph be reconsidered and withdrawn.

Rejection of Claims 1-10, 16-21, and 49-54 Under 35 U.S.C. § 112, First Paragraph

The Examiner has rejected claims 1-10, 16-21, and 49-54 under 35 U.S.C. §112, first paragraph, because allegedly

> the specification, ***while being enabling for using a method for assessing whether a patient is afflicted with adenocarcinoma or squamous cell carcinoma of the cervix***, said method comprising determining whether the polypeptide comprising the amino acid sequence of SEQ ID NO:30 (*i.e.*, KCNAB1), which is encoded by marker M666 comprising the polynucleotide sequence of SEQ ID NO:29, is overexpressed in a sample of cervical tissue acquired from the patient, as compared to its level of expression in a sample of cervical tissue acquired from normal control subject not afflicted by cervical cancer, ***does not reasonably provide enablement for using a method for assessing whether a patient is***

> ***afflicted with cervical cancer or has a pre-malignant condition.*** (Emphasis added).

Without acquiescing to the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have amended the claims to be directed to methods of assessing whether a patient is afflicted with ***cervical carcinoma, e.g., adenocarcinoma (ACA) or squamous cell carcinoma (SCC),*** the method comprising comparing: a) the level of expression of a marker in a patient cervical sample, wherein the marker is M666, and b) the level of expression of the marker in a normal control cervical sample, wherein a significant difference between the level of expression of the marker in the patient cervical sample and in the normal control cervical sample is an indication that the patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC.*** Thus, the appropriate inquiry for determining whether the enablement requirement has been satisfied in the present case, is whether the instant specification teaches the ordinary skilled artisan how to assess whether a patient is afflicted with cervical carcinoma, *e.g.,* ACA or SCC of the cervix. For the reasons provided below, Applicants respectfully submit that the instant specification enables the ordinary skilled to assess whether a patient is afflicted with cervical carcinoma, *e.g.,* ACA or SCC of the cervix using only routine experimentation.

To begin with, the Examiner has indicated, at page 14 of the Office Action, that the specification is "***enabling for using a method for assessing whether a patient is afflicted with adenocarcinoma or squamous cell carcinoma of the cervix.***" The Examiner also states that the specification "***teaches the expression of the protein in a cervical tumor (i.e., cervical adenocarcinoma and squamous cell carcinoma), as well as the lack thereof by normal cervical tissue***; see, *e.g.,* Tables 4 and 8 of the specification." Thus, the Examiner has admitted that Applicants' specification is enabling for the presently claimed methods.

Moreover, Applicants respectfully submit that Applicants' specification provides extensive teachings which would enable one of ordinary skill in the art to assess the expression of the markers of the invention, including "immunological methods for detection of secreted, cell-surface, cytoplasmic, or nuclear proteins, protein purification methods, protein function or activity assays, nucleic acid hybridization methods, nucleic acid reverse transcription methods, and nucleic acid amplification methods" (see, *e.g.,* page 20, lines 27-32 of the specification). Additionally, the specification teaches the identification of the markers of the invention using methods that are well known in the art, including the transcriptional profiling of cervical tissues

by cDNA microarrays (see, *e.g.*, Example 1, pages 86-90 of the specification), *in situ* hybridization (ISH) (see, *e.g.*, page 90, line 27 through page 92, line 4 of the specification), and TAQMAN® quantitative PCR (see, *e.g.*, page 92, line 6 through page 94, line 20 of the specification). In particular, the specification teaches that the identification of the markers of the invention can be used to assess whether a patient is afflicted with cervical carcinoma, including "SCC, ACA, and poorly differentiated carcinomas" (see, *e.g.*, page 90, line 31 through page 91, line 1 of the specification).

In view of the foregoing teachings in Applicants' specification, one of ordinary skill in the art would be able to make and use the claimed invention using only routine experimentation.

The Examiner has also alleged that "the specification does not teach whether or not the presence of the protein in any non-cervical biological sample, such as the blood or the saliva provides an indication that the patient is afflicted with cervical cancer... it would not be reasonably expected that this particular protein is secreted" (see, *e.g.*, page 16 of the Office Action). Without acquiescing to the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have cancelled claim 3, which was directed to a secreted marker protein, thereby rendering this issue moot.

The Examiner further alleges that "the specification does not teach whether or not the presence of the protein in any biological sample, which does not comprise cervical tumor cells, is indicative of the presence in the patient of cervical cancer or a pre-malignant condition. Notably, while claims 5-7 require the sample comprise cells, those cells are not necessarily the cells of a cervical tissue." Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have amended claims 5-7 to be directed to "cervical cells," thereby rendering this issue moot.

The Examiner also alleges that "although claim 2 requires the patient have CIN or SIL, the specification does not teach whether or not there is significant overexpression of the protein encoded by marker M666 by any specific type of cervical tumor cell or pre-malignant cell, ***apart from the cervical adenocarcinoma cell and the squamous cell carcinoma cell***" (Emphasis added). Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have

cancelled claim 2, thereby rendering this issue moot. Once again, Applicants wish to point out that the Examiner has admitted that the specification is enabling with respect to a method for assessing whether a patient is afflicted with cervical carcinoma, *e.g.*, ACA or SCC of the cervix.

Moreover, with respect to claim 1, the Examiner has alleged that "[i]f the 'normal' level is the level of expression in a specimen of cervical cancer cells, as the claims recite, then, that level is not expected to differ from the level of expression in a sample of cervical cancer cells acquired from the patient." Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have amended claim 1 to be directed to methods of assessing whether a patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC***, the method comprising comparing: a) the level of expression of a marker in a patient cervical sample, wherein the marker is M666, and b) the level of expression of the marker in a normal control cervical sample, wherein a significant difference between the level of expression of the marker in the patient cervical sample and the normal control cervical sample is an indication that the patient is afflicted with ***cervical carcinoma, e.g., ACA or SCC***.

At page 19 of the Office Action, the Examiner has alleged that

> [c]laims 16, 17, 53, and 54 recite the level of expression of the marker in the sample differs from the normal level of expression of the marker in a patient not afflicted with cervical cancer; yet, the normal level of expression is not necessarily the normal level of expression in the cervix, but might instead be the normal level of expression in some other tissue specimen acquired from a patient not afflicted with cervical cancer.

Without acquiescing to the validity of the Examiner's rejection, and solely in the interest of expediting prosecution and allowance of the pending claims, Applicants have amended claims 16, 17, 53, and 54 to be directed to a "cervical sample" or a "cervical cell", as appropriate.

As evidenced by all of the foregoing, the amount of direction and guidance disclosed in the specification, as well as the general knowledge in the art at the time of the invention, is sufficient to enable the skilled artisan to make and use the claimed invention using only routine

experimentation. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-10, 16-21, and 49-54 under 35 U.S.C. §112, first paragraph.

Rejection of Claims 1, 2, 4-10, 16-21, and 49-54 Under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1, 2, 4-10, 16-21, and 49-54 under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent Application Publication No. 2003/0087270. In particular, the Examiner is of the opinion that

> [t]he applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) may be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Reconsideration and withdrawal of the rejection in light of the following discussion is respectfully requested. Applicants submit herewith a Petition under 37 C.F.R. § 1.48(b) to delete the names of the following persons originally named as inventors of the instant application: Karen Glatt and Shubhangi Kamatkar. The above mentioned inventors' invention is no longer being claimed in the application. Therefore, the following persons remain named as the joint inventors of the claimed invention: John E. Monahan, Yan Chen, and Xumei Zhao.

Applicants also submit herewith declarations under 37 CFR § 1.132 executed by the inventors of the instant invention, John E. Monahan, Yan Chen, and Xumei Zhao. These declarations indicate that Robert Schlegel, Shubhangi Kamatkar, Manjula Gannavarapu, Karen Glatt, and Sebastian Hoersch, who are co-authors with the inventors in U.S. Patent Application Publication No. 2003/0087270A1, are *not* co-inventors of the subject matter described and claimed in the instant application. As indicated in the declaration, any disclosure contained in U.S. Patent Application Publication No. 2003/0087270A1 which relates to the invention claimed in the instant application was derived from the inventors of the instant application, John E. Monahan, Yan Chen, and Xumei Zhao, rather than the other named inventors in U.S. Patent Application Publication No. 2003/0087270A1 notwithstanding the inventorship of the published application. Thus, U.S. Patent Application Publication No. 2003/0087270 does not constitute an invention "by another."

Accordingly, the subject matter disclosed in U.S. Patent Application Publication No. 2003/0087270 which relates to the invention claimed in the instant application represents Applicants' own work, and cannot be used against Applicant under 35 U.S.C.§ 102(e). *In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1958).

For the foregoing reasons, Applicants respectfully request that the rejection of claims 1, 2, 4-10, 16-21, and 49-54 under 102(e) be reconsidered and withdrawn.

Rejection of Claims 1 and 3-13 Under the Judicially Created Doctrine of Nonstatutory Obviousness-Type Double Patenting

The Examiner has provisionally rejected claims 1 and 18-21 under the judicially created doctrine of nonstatutory obvious type double patenting as "being unpatentable over claim 4 of co-pending Application No. 11/510,530." In particular, the Examiner is of the opinion that

> [c]o-pending claim 4 is directed to a method for assessing whether a patient is afflicted with cervical cancer, said method comprising comparing the level of expression of a marker in a patient sample, wherein the marker is selected from table 1, and the normal level of expression, wherein a significant increase in the level of expression in the patient sample is an indication that the patient is afflicted with cervical cancer.
> Table 1 of the co-pending application discloses a marker comprising the polynucleotide of SEQ ID NO: 104, which is identical to marker M666 of the instant application, which comprises the polynucleotide sequence of SEQ ID NO: 29 and encodes KCNAB1 (i.e., the polypeptide of SEQ ID NO:30).
> Accordingly, the claimed inventions are so substantially similar that for the most part, the claimed subject matter of the co-pending application anticipates the claimed subject matter of the instant application and any minor differences in the subject matter claimed in the instant application would be seen as an obvious variation of the subject matter claimed in the co-pending application.

While in no way admitting that claims 1 and 18-21 are the same or obvious over claim 4 of co-pending Application No. 11/510,530, Applicants will consider submitting, if appropriate, a terminal disclaimer in compliance with 37 C.F.R. 1.321(b) and (c), which will obviate this rejection upon allowance of the pending claims. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

CONCLUSION

In view of the foregoing, entry of the amendments and remarks presented, favorable reconsideration and withdrawal of the rejections, and allowance of this application with the pending claims are respectfully requested. If a telephone conversation with the Applicants' attorney would expedite prosecution of the above-identified application, the Examiner is invited to call the undersigned at (617) 227-7400.

Dated: June 7, 2007

Respectfully submitted,

By _____

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